

**Chen, Kani; Jin, Zhezhen; Ying, Zhiliang****Semiparametric analysis of transformation models with censored data.** (English)

Zbl 1039.62094

Biometrika 89, No. 3, 659-668 (2002).

Summary: A unified estimation procedure is proposed for the analysis of censored data using linear transformation models, which include the proportional hazards model and the proportional odds model as special cases. This procedure is easily implemented numerically and its validity does not rely on the assumption of independence between the covariates and the censoring variable. The estimator is the same as the Cox partial likelihood estimator in the case of the proportional hazards model. Moreover, the asymptotic variance of the proposed estimator has a closed form and its variance estimator is easily obtained by plug-in rules. The method is illustrated by simulation and is applied to the Veterans' Administration lung cancer data.

**MSC:**

- [62N02](#) Estimation in survival analysis and censored data
- [62G05](#) Nonparametric estimation
- [62N01](#) Censored data models
- [62G20](#) Asymptotic properties of nonparametric inference
- [62P10](#) Applications of statistics to biology and medical sciences; meta analysis

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**Keywords:**

estimating equations; linear transformation model; proportional hazards model; proportional odds model

**Full Text:** [DOI](#)